

CLAIMS

1. A method for procedural abstraction of instruction sequences in a computer program comprising the steps of
 - 5 -creating a control flow graph of the program, said flow graph including basic blocks of instructions (504),
 - traversing through the basic blocks in order to detect multiple occurrences of a same instruction sequence (506),
 - creating a function including the longest sequence common to at least two instruction sequences from a plurality of sequences having a common
10 instruction sequence of equal or shorter length compared to said longest sequence (512), and
 - replacing the original occurrences of said instruction sequences in said plurality of sequences with a reference to a proper position in said created function (514).
- 15 2. A method of claim 1, wherein the blocks are traversed in opposite direction to the block execution.
3. A method of claim 1, wherein said proper position is the position from which onward the sequence in the function matches with the original occurrence of the replaced instruction sequence.
- 20 4. A method of claim 1, wherein said reference is substantially a function call or a branch instruction.
5. A method of claim 1, wherein said created function contains substantially the basic block whereto said longest sequence belongs.
6. A method of claim 1, wherein said instruction sequences comprise the last
25 instructions of the corresponding block.

7. A method of claim 1, wherein after creating the flow graph said basic blocks are divided into a plurality of block sets, said blocks in different sets comprising no common instruction sequences.
8. A computer program comprising code means to execute the method steps of
5 claim 1.
9. A carrier medium carrying the computer executable program of claim 8.
10. An electronic device for abstracting instruction sequences in a computer program, said device comprising processing means (606) and memory means (602) for processing and storing instructions and data, and data transfer means (608) for
10 accessing data, said device arranged to create a control flow graph of the program, said flow graph including basic blocks of instructions, said device further arranged to traverse through the basic blocks in order to detect multiple occurrences of a same instruction sequence, to create a function including the longest sequence common to at least two instruction sequences from a plurality of sequences having a common
15 instruction sequence of equal or shorter length compared to said longest sequence, and to replace the original occurrences of said instruction sequences in said plurality of sequences with a reference to a proper position in said created function.